

Operational and Scientific Equipment

Background – During the first year of operations, the Sustainable Seas Expeditions will explore areas within National Marine Sanctuaries using the DeepWorker, small one-man submersibles with limited payload and battery power. The primary goal will be to collect quality video and still photography of underwater features and biota. The following is a list of equipment that will be available to operate the submersible, as well as scientific equipment that may be provided for testing. These items will be obtained if possible.

Operational Equipment:

- One (6 foot, six function anthropomorphic) manipulator per sub
- Cable cutters
- Basic sub lights (2 per sub)
- Tracking system and spares (Mesotech/Imaginex or equivalent), one at 330, one at 675 Khz.
- High resolution sonar
- On-board computer systems capable of operating navigation, sonar and video
- Spare sets of batteries and trays for both submersibles
- ROV - provided by Nuytco during the Monterey Bay NMS Expedition

Scientific Equipment:

- Voice recorder
- Three ekman grabs
- Scoop samplers
- On-sub CTD
- Tube cores, handles and quivers
- Sample basket(s)

Note 1: Real-time on-board navigation/positioning is still being investigated. At this time, transect repeatability is not possible without installation of permanent markers.

Note2: The use of scientific equipment must be outlined in the Cruise Plan. In addition, arrangements must be made prior to the mission to have the equipment pressure tested.